

CERTAMEN MELASTOMATACEIS XIII.

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MONOCHAETUM URIBEI Wurdack, sp. nov.

Ut videtur *M. pringlei* Rose affinis, floribus minoribus ovarii setulis glanduliferis differt.

Frutex 0.4-1 m altus; ramuli quadrangulati ad nodos pilis laevibus erectis modice praediti. Petioli 0.15-0.25 cm longi, glabri, basibus in ramulis persistentibus tumidis; lamina 0.8-1.2 X 0.15-0.25 cm anguste lanceata apice basique acuto, rigidiuscula, triplinervata, nervis primariis lateralibus supra invisibilibus nervis secundariis ubique invisibilibus, supra et subtus in superficie plerumque glabra subtus glandulis sessilibus sparse induta, apice setulis plerumque tribus ca. 0.5 mm longis armato. Flores in ramulis terminales solitarii, pedicellis 6-9 mm longis sicut hypanthiis sparse strigulosi, pilis 0.2-0.4 mm longis laevibus ca. 3 per mm quadr. Hypanthium ca. 5 mm longum; calycis lobi persistentes 6.5-7 mm longi lanceati extus per costam sparsissime strigulosi unilateraliter ciliolati ciliolis 0.1-0.2 mm longis. Petala 11-12 X 7 mm elliptico-ovata glanduloso-ciliolata. Stamina dimorphica glabra, thecis subulatis, poro dorsaliter inclinato; filamenta 8-10 mm longa. Stamina maiora: thecae 7-9 mm longae; connectivum 1 mm prolongatum; appendix dorsalis 4.5 X 0.4-0.5 mm, apice rotundato. Stamina minora: thecae 5.5-6 mm longae; connectivum non vel vix (0.3 mm) prolongatum; appendix dorsalis 4.5-5 X 0.3-0.5 mm, apice hebeti-acuto. Stigma truncatum; stylus ca. 10 X 0.25-0.4 mm, glaber; ovarii apex setulis glanduliferis ca. 1 mm longis modice armatus.

MONOCHAETUM URIBEI var. URIBEI

Internodia omnino glabra; folia (apice excepta) glabra non ciliata.

Type Collection: L. Uribe 6078 (holotype US 2534301; isotype COL), collected at Villa de Leiva, on the trail to La Capilla, Depto. Boyacá, Colombia, elev. 2700 m, 10 Feb. 1968. "Arbusto de 1 m, entre matorral al comienzo de la selva. Bellas flores rosadas con estambres de color amarillo limón."

MONOCHAETUM URIBEI var. ARCABUCENSE Wurdack, var. nov.

Internodia primum sparse strigulosa demum glabrata; foliorum margines sparse appresso-ciliolatae, venis primariis subtus sparsissime strigulosi.

Type Collection: L. Uribe 5631 (holotype US 2534300; isotype COL), collected northeast of Arcabuco, Depto. Boyacá, Colombia, elev. 2650-2700 m, 8 June 1966. "Arbustillo de 0.5-1 m de altura, a orilla de los senderos entre el bosque. Tallos, pecíolos y nervios foliares de color rosado intenso. Hipantio y

sépalos rosado-granates. Pétalos violetas. Estambres con anteras y apéndices conectivales amarillos. Estilo rosado.

Paratype (topotypical): Uribe 5437, Oct. 1965 (in old fruit).

The suggested Mexican relative has (usually) larger leaf blades and somewhat larger flowers (small stamen thecae, dry, 6.5-7.5 mm long; large stamen appendages 0.7-1 mm wide) with eglandular ovarial hairs. Gleason's key (*Am. Jour. Bot.* 16: 593. 1929) gives obvious differences from the other species of his *Pringleae*. The other Central American species with somewhat the aspect of M. uribei, M. deppeanum (S. & C.) Naud. and M. alpestre Naud., both have barbellate stem and hypanthium hairs. No close South American relatives of M. uribei are apparent, with all the Hartwegianae having much larger leaves, and M. strigosum Cogn. (ex char.) showing barbellate hairs and relatively broader leaves as well as shorter oblong sepals. All floral measurements for M. uribei were taken from dry material to conserve the few flowers at anthesis. It is again a great pleasure to honor Padre Uribe, with his discriminating eye for variants, who has contributed so much to the knowledge of the Melastomataceae of Colombia.

ADELOBOTRYS INTONSA (Gleason) Wurdack, comb. nov.

Meriania intonsa Gleason, *Bull. Torrey Club* 58: 223. 1931.

The rufous malpighian hairs on the stems, leaf veins (beneath), and hypanthia, as well as (qualitatively) the simple foliar pubescence, are like that in A. scandens (Aubl.) DC.; the narrow hypanthium, flaring calyx limb, and anthers are all as in Adelobotrys. However, A. intonsa differs from the genotype in the rather stouter hairs on the upper leaf surfaces, scantier hypanthial pubescence, and rigid long terminal setae on the calyx lobes. Klug 1940, from Putumayo, Colombia, which was distributed as M. intonsa, seems better placed as A. scandens.

GRAFFENRIEDA TAMANA Wurdack, sp. nov.

G. emarginatae (R. & P.) Triana affinis, foliis ad basim non cordatis subtus sicut ramis inflorescentisque resinoglandulosis floribus fructibusque pedicellatis differt.

Frutex vel arbor 6-7 m altus; rami robusti quadrisulcati inter petiolos crasse annulati (annulo 1-2 mm alto) sicut folia subtus inflorescentia hypanthiaque modice resinoso-glandulosa glandulis sessilibus 0.05 mm diam. Petioli 2.5-3.5 cm longi; lamina (15-)23-27 X (8-)16-21 cm late elliptica vel paulo ovato-elliptica, utrinque obtusa, rigide membranacea, integra, glandulis exceptis glabra, 7-nervata nervis secundariis plerumque 0.5-0.7 cm inter se distantibus nervulis subtus subplanis laxe reticulatis. Panicula ca. 20 cm longa lataque multiflora; flores 4-meri, pedicellis crassis ca. 1 mm longis, alabastris maturis solum cognitis. Hypanthium (ad torum) 2.5 mm longum; calyx 2 mm longus in alabastro clausus ad anthesim usque ad 0.5 mm supra torum in lobis 3-4 ovatis persistentibus dehiscens. Petala glabra, immatura ca. 2.8-3 X 2.8-3 mm obtusa. Stamina

isomorphica glabra; thecae 2.5 X 0.5 X 0.6-0.7 mm oblongae paulo curvatae poro 0.15 mm diam., connectivo 0.4-0.5 mm prolongato, calcar dorsali acuto 0.7-0.8 mm longo. Stigma punctiforme; ovarium 4-loculare, apice truncato vel paullulo (0.1 mm) emarginato sparsissime resinoso-glanduloso.

Type Collection: J. A. Steyermark 57301 (holotype F 1201281; isotype NY), collected in rich moist woods at the base of the Parámo de Tamá, 4-10 km above Betania, Edo. Táchira, Venezuela, elev. 2500-2895 m, 15 July 1944. "Leaves coriaceous, dark green and shining above, dull brown below with prominent raised nerves beneath. Rachis inclined or drooping, dull red; calyx pale green; petals white."

Paratype: Steyermark, Dunsterville, & Dunsterville 98777 (US, VEN), from below the Parámo de Tamá near the Colombia-Venezuela frontier, Táchira, elev. 2750-2950 m, 20-23 May 1967 (fruiting).

Graffenrieda emarginata has markedly cordate leaf blade bases, vegetative and inflorescence pubescence of granulose-pinoid hairs 0.1-0.3 mm long, and sessile flowers; in internal floral features, the two species are similar. Typical G. emarginata has been sporadically collected in Colombia (Antioquia, Huila), Ecuador (Santiago-Zamora), and Peru (San Martín and Piura, fide Macbride; Amazonas, Huanuco). However, some variants (or distinct species) from Colombia and Bolivia have been distributed as G. emarginata (Cuatrecasas 8581, Metcalf & Cuatrecasas 30129, Bang 849, Buchtien 1100). In both G. tamana and G. emarginata, the petioles are often verrucose (parasitized?).

PLATYCENTRUM CLIDEMIOIDES Naud. subsp. ECUADORENSE Wurdack, subsp. nov.

Folia ubique pilis gracilibus laxis plus minusve patentibus 1-1.5 mm longis persistentibus modice induta.

Type Collection: E. Asplund 19422 (holotype S), collected at the forest edge, Vera Cruz, Prov. Napo-Pastaza, Ecuador, elev. 900 m, 18 Feb. 1956. "Low slender shrub. Inflorescence with reddish violet hairs; petals white; filaments red; anthers yellow."

Paratype: P. C. D. Cazalet & T. D. Pennington 7693 (NY, US), from the rainforest at Taisha, Prov. Santiago-Zamora, Ecuador, elev. 460 m. "3' shrub, hispid. Hairs red on stems, white on leaves. Petals white; stamens reddish."

PLATYCENTRUM CLIDEMIOIDES Naud. subsp. BOLIVIENSE Wurdack, subsp. nov.

Folia supra sparse strigulosa, subtus pilis gracilibus erectis 0.7-1 mm longis persistentibus modice induta.

Type Collection: O. Buchtien 1136 (holotype US 1692086; isotype NY), from San Carlos, Mapiiri region, Bolivia, elev. 850 m, 28 Jan. 1927.

Paratypes (both topotypical): O. Buchtien 996 and 997.

The typical subspecies has leaves sparsely to very sparsely

and caducously strigulose with appressed surface hairs only 0.2-0.3 mm long. Within subsp. clidemioides, there is considerable variability in hypanthial pubescence and floral dimensions but reasonable consistency in vegetative indument. The Cazalet and Pennington collection was distributed as Leandra cf. rufescens (DC.) Cogn., while the Buchtien specimens had been filed under the undetermined species of Miconia. The Mapiri subspecies has somewhat the vegetative aspect of several species of Miconia Sect. Cremanium (M. brachyanthera Triana, M. brittonii Cogn.). From the features of gland-tipped inflorescence hairs and patelliform stigmas, M. rhonhofiae Mgf., placed in this part of Sect. Cremanium in the original description, is not the same as the Ecuadorian subspecies of Platycentrum. Probably Platycentrum is not generically distinct from Leandra; for a discussion of distribution and synonymy, see Mem. N. Y. Bot. Gard. 10(5): 161. 1964.

LEANDRA CUNEATA (Mart.) Cogn.

Hitherto known only from Baía, Brazil, this species has twice been recently collected in British Guiana: Kopinang Falls, Maguire, Maguire, & Wilson-Browne 46071; Kako River, Tillett & Tillett 45446, earlier misdetermined by me as Miconia centrodesma Naud. Certainly L. cuneata bears a remarkable resemblance to M. centrodesma in pubescence, foliage, and ovary; it is distinguishable by the completely eciliate leaves, larger flowers, exappendiculate anthers, and 4-5-celled ovaries. On the youngest buds available in the British Guiana and Baía collections (Luschnath s. n., US, annotated by Cogniaux), I could not see an apiculum such as is characteristic of the calyptrate calyx tip in M. centrodesma. The external calyx teeth in L. cuneata are marked by stellate hair fascicles and are not setuliform as in M. centrodesma. In L. cuneata, the petals are bluntly acute, the torus puberulous within, and the ovary apex sparsely stellulate-furfuraceous (not glabrous as cited by Cogniaux). Of 43 countable flowers in the Kopinang collection, 29 were 5-merous and 14 were 4-merous. The many similarities between the two species would indicate that they are congeneric (but not conspecific), but further collections are desirable. The British Guiana-Baía disjunction in the distribution of L. cuneata is matched elsewhere in the Melastomataceae, probably only a reflection of the great expanse of unvisited terra firme on both sides of the Amazon lowlands in northeastern South America.

MICONIA AMACURENSIS Wurdack

Recently described from eastern Venezuela, this species has also been collected in Pernambuco, Brazil: Recife, Dois Irmãos, J. L. S. de Lima 11 (Herb. Tavares 1738), S. Tavares 919; Tapera, B. Pickel 2996. The vegetative resemblance to M. melinonis Naud. is remarkable; that French Guiana species, however, has 5-merous flowers, definite calyx lobes, relatively narrower anthers with obscurely glandular connectives, sparsely puberulous filaments,

and basally glandular-puberulous (and intermixed stellulate-puberulous) styles. For M. melinonis, Melinon s. n. (anno 1842) (US), from French Guiana and Museu Goeldi 10857 (US), from the Rio Acara, Pará, Brazil, have been studied. From Gleason's dissection notes at Kew, Sagot 987 may well be M. amacurensis, rather than M. melinonis as cited by Cogniaux. Macbride photograph 17108 is not of M. melinonis, but rather of a small-flowered species of Sect. Miconia (perhaps M. surinamensis Gleason, which may be only varietally distinct from M. poeppigii Triana). I had originally identified Tavares 919 as M. cf. jucunda (DC.) Triana; that austral species may well be the closest relative of M. amacurensis, but differs in the leaf venation, the 5-merous flowers, and the 3-celled ovaries.

MICONIA AMPLA Triana, Trans. Linn. Soc. Bot. 28: 101. 1871.

M. involucrata Donn. Sm., Bot. Gaz. 37: 209. 1904.

M. megaphylla Gleason, Bull. Torrey Club 59: 363. 1932.

From the present accumulation of collections, none of Gleason's criteria for the species separation (Bull. Torrey Club 59: 362. 1932) are valid. The degree of retention of the pale amorphous indument on the lower leaf surfaces is quite variable, the mature leaves being essentially concolorous in collections from Trinidad, British Guiana, and southern Venezuela. The number of well-developed (reaching nearly or quite to the leaf apex) primary leaf nerves ranges from 5 to 7, with varying numbers of fainter basal nerves depending on the leaf size. In floral dimensions there also is considerable variation, the Pará (Brazil) and British Honduras collections showing the largest flowers. As broadly defined, M. ampla is known from Guatemala, British Honduras, Jamaica (Bull. Inst. Jam. Sci. 16: 41. 1967), Trinidad, Venezuela (Steyermark 61367, 90722, 99938, Wurdack & Adderley 43530), British Guiana, Suriname (Maguire 24087), Brazil (Pará), Peru (San Martín), and Bolivia. Miconia fissa Gleason is weakly distinguishable from M. ampla by having only 3 (excluding the tenuous marginals) primary leaf veins; the floral distinctions cited in the original description are not satisfactory, even the type and paratype collections having predominantly 6-merous flowers and the sepal tooth carination variable. Two recent Colombian collections of M. fissa are Schultes & Cabrera 16406 (Río Miritipará, Amazonas) and García-Barriga 13780 (Río Kananari, Vaupés).

One additional species, M. decurrens Cogn., the type collection (MG) of which I have studied, should be added to the above-mentioned species group studied by Gleason; it was erroneously placed originally in Sect. Laceraria. The obvious affinity of M. decurrens is with M. stellulata Gleason of Bolivia. Recent collections of M. decurrens are: Steyermark 95717, from Río Nichare, Bolívar, Venezuela; Cuatrecasas 11396 and Schultes & Smith 3047, both from between Mocoa and Sachamates, Putumayo, Colombia; Cazalet & Pennington 7546 and

7551 from Taisha, Santiago-Zamora, Ecuador; Williams 3410, from Río Itaya, Loreto, Peru; and (probably) Krukoff 10725, from Tuirí, La Paz, Bolivia. Klug 3342 (distributed as *M. mucronata*) perhaps represents an undescribed species close to *M. decurrens*, but with the flowers multiclustered at the branchlet ends rather than racemose on the short branchlets. *Miconia pachydonata* Gleason, of Amazonian Peru, is easily distinguished from *M. decurrens* by the very shortly acuminate leaf apices and larger flowers, but perhaps is not really separable from *M. ampla*. From the description and type photograph, *M. pubicalyx* of Bolivia, placed in Sect. *Jucunda*, surely belongs elsewhere and perhaps is *M. stenostachya* DC.

MICONIA KAVANAYENSIS Wurdack, sp. nov.

In aspectu vegetativo *M. dispari* Benth. affinis, ramis alato-quadrangulatis inflorescentiae ramis primariis verticillatis floribus non secundis differt.

Rami tetragoni (alis ca. 1.5 mm altis 1 mm crassis) sicut petioli foliorum subtus venae primariae inflorescentiaeque pilis stellato-pinoideis usque ad 0.3 mm longis omnino obducti in nodis pilis gracilibus flexuosis 1-2 mm longis caducis dense obsiti. Petioli (2-)4-7 cm longi; lamina (17-)25-42 X (7-)10-15 cm oblongo-elliptica apice subgradatim vel abrupte per 1-4 cm acuminato basi obtusa, subcoriacea et undulato-denticulata dentibus 2-4 mm inter se distantibus, supra glabra et opaca, subtus pilis stellatis cinereis ca. 0.4 mm diam. densissime induti, 5-nervata pari exteriori tenui inframarginali nervis secundariis 0.6-1 cm inter se distantibus nervulis supra inervis subtus paulo elevatis reticulatisque. Panicula 20-32 cm longa multiflora, ramis primariis plerumque 4-8-verticillatis, bracteis ca. 5 mm longis ovato-ellipticis valde caducis; flores 5-meri sessiles in ramulis interrupto-glomerati, bracteolis ca. 1 mm longis linearibus caducis. Hypanthium (ad torum) 2 mm longum extus densissime et intus sparse stellulato-puberulum; calycis tubus 0.5 mm altus intus sparsissime stellulato-puberulus, lobis interioribus 0.1 mm altis remotis, dentibus exterioribus deltoideis ca. 0.3 mm eminentibus. Petala (vix matura) 1.6-1.7 X 1.1-1.3 mm obovato-oblonga inconspicue granulosa, apice rotundato vel paulo emarginato. Stamina dimorphica glabra; thecae 1.3-1.5 vel 1 X 0.25 mm lanceatae uniporosae, connectivo 0.1-0.2 mm prolongato, appendice basali cordiformi 0.3 X 0.3 mm vel trilobulata 0.2 X 0.2 mm. Stylus glaber; ovarium 3-loculare 4/5 inferum, apice conico dense stellulato-puberulo.

Type Collection: T. Lasser 1879 (holotype VEN 36521; isotype NY), collected in the Selva de Oparuma, Kavanayén, Edo. Bolívar, Venezuela, 30 May 1946. "Arbol pequeño de frutos verdosos amarillentos."

Paratype: J. A. Steyermark 60598 (F, NY), from dense forest along Río Karuai near the base of Ptari-tepuí, Bolívar, Venezuela, elev. 1220-1375 m, 27 Nov. 1944 (with young inflorescences). "Tree 35 feet tall; leaves deep green above,

silvery buff below with buff midrib."

Miconia dispar has obtusely quadrangular branches, short opposite primary inflorescence branches, and secund flowers, but the same pubescence, foliage, and general floral structure (however, the anthers 2-2.8 mm long, the ovary only $\frac{1}{2}$ inferior). In Cogniaux' system, M. kavanayensis would perhaps key to near M. martiniana Gleason and M. maroana Wurdack; both species differ vegetatively and in flowers, the latter having much larger stamens and a barely inferior ovary.

MICONIA UMBRIENSIS Wurdack, sp. nov.

M. wittii Ule affinis, foliis maioribus tenuioribusque petalis minoribus ovariorum apicibus glabris differt.

Ramuli primum valde compressi demum teretes sicut folia subtus inflorescentia hypanthiaque indumento stellulato-lepidoto appresso persistente omnino obducti. Folia in quoque pari in dimensionibus paulo (1: 0.5-0.7) anisophylla; petioli 2.5-5.5 cm longi; lamina (10-)18-30 X (6-)10-16 cm elliptica apice per 1-2.5 cm subabrupte acuminato basi acuta, tenuis et integra, supra glabra, trinervata (pari inframarginali tenui neglecto), nervis secundariis 0.5-1 cm inter se distantibus nervulis subtus laxiuscule (areolis ca. 0.5 mm latis) irregulariterque anastomosantibus ob pilos saepe occultis. Panicula 16-20 X 12-17 cm multiflora, ramis oppositis; flores 5-meri sessiles ad ramulorum apices 6-12-aggregati, bracteolis ca. 0.3 mm longis triangularibus caducis. Hypanthium (ad torum) 1.1-1.5 mm longum teres; calycis tubus 0.2-0.3 mm altus, dentibus 0.1 mm altis remotis vix perspicuis. Petala glabra 1.5-2 X 0.75-1.1 mm oblongo-obovata, apice asymmetricice rotundato vel paulo retuso. Stamina paulo dimorphica glabra; filamenta 2.5-3.8 mm longa; antherarum thecae anguste oblongae 1.3-1.4 vel 1.1-1.3 X 0.2-0.25 mm poro 0.2 mm lato ventraliter inclinato, connectivo 0.2-0.5 mm prolongato ventraliter non vel paullulo bilobulato dorsaliter dente hebeti vel hebeti-acuto 0.2-0.4 mm longo armato. Stigma paulo expansum 0.2-0.4 mm diam.; stylus 3-6 X 0.15-0.2 mm glaber in ovarii apicem 0.1 mm immersus; ovarium 3-loculare $\frac{2}{3}$ inferum glabrum pauciovulatum.

Type Collection: G. Klug 1926 (holotype US 1456657), collected at Umbria, Putumayo, Colombia, elev. 325 m, Jan.-Feb. 1931. "Tree 8 m; flowers white."

Paratype: Cuatrecasas 11261, from rain forest between Puerto Asís and Umbria, Putumayo, elev. 270-350 m, 23 Dec. 1940. "Arbolito; pétalos blancos."

Miconia wittii has thin-coriaceous leaf blades up to only 20 X 8 cm, rather definite deltoid calyx lobes 0.5-0.7 mm long, petals 2.7-3.3 X 1.5-1.7 mm, and ovary apices moderately lepidote-pubescent. Both collections of M. umbriensis had been distributed as M. hypoleuca (Benth.) Triana, a species differing greatly (hexagonal branchlets, indiscrete cobwebby tomentum on the lower leaf surfaces, rimose anthers). Other species with large leaves covered beneath by stellulate-lepidote hairs can distinguished by inflorescence (secund flowers) or floral

features.

MICONIA IDROBOI Wurdack, sp. nov.

Sect. Miconia. M. argenteae (Sw.) DC. affinis, foliis obovato-ellipticis subtus sicut hypanthiis sparsiuscule stellulato-lepidotis differt.

Ramuli superiores ancipites hinc et inde valde compressi sicut petioli foliorum subtus venae primariae secundariaeque inflorescentiaeque dense lepidibus 0.1-0.15 mm diam. i. s. pallide brunneis omnino induti. Petioli 2-3.5 cm longi; lamina (13-)18-24 X 7-12 cm paulo obovato-elliptica apice subabrupte breviterque (0.5-1 cm) acuminato basi late acuta vel obtusa, fragilis et tenuiter sed distincte undulato-serrulata dentibus ca. 0.2-0.3 mm profundis et 2-3 mm inter se distantibus, supra glabra, subtus in superficie densiuscule lepidibus ciliolatis 0.15-0.2 mm diam. obsiti superficie inter pilos visibili, breviter 5-plinervata pari interiore 0.5-1 cm supra laminae basin divergente nervis secundariis plerumque 5-7 mm inter se distantibus, tertiariis subtus inconspicue evolutis non vel laxissime reticulatis. Panicula multiflora, 10-15 cm longa; flores 5-meri sessiles in inflorescentiae ramulis interrupto-glomerati non secundi, bracteolis 0.5-0.7 X 0.2-0.4 mm usque ad anthesim plerumque persistentibus. Hypanthium (ad torum) 1.3-1.6 mm extus dense stellulato-lepidotum; calycis tubus 0.3 mm altus, limbo 5-undulato 0.1 mm alto, dentibus exterioribus obscuris omnino adhaerentibus non eminentibus. Petala glabra 2.3-2.5 X 1.3-1.6 mm oblongo-obovata, apice paulo retuso. Stamina paullulo dimorphica glabra; filamenta 2.4-2.6 vel 2 mm longa; antherarum thecae 1.5-2 X 0.35-0.4 X 0.4 mm vel 1.3-1.7 X 0.3-0.35 X 0.4-0.45 mm oblongae vel obcuneatae, apice paulo emarginato, poro lato 0.35-0.4 mm diam. ventraliter inclinato, connectivo 0.2-0.3 mm prolongato ventraliter paulo bilobulato vel simplici dorsaliter non appendiculato. Stigma expansum 0.5 mm diam.; stylus 3.8-4 X 0.3-0.4 mm glaber in ovarii apicem 0.2-0.3 mm immersus; ovarium 3-loculare 1/3-1/2 inferum apice conico 0.5 mm alto glabro.

Type Collection: J. M. Idrobo & R. E. Schultes 837 (holotype US 2029617), collected along the trail from Río Güejar to Caño Guapayita, base of Cordillera Macarena, Meta, Colombia, elev. 500-600 m, 20-28 Dec. 1950. "Small tree."

Paratype: Philipson, Idrobo, & Fernandez 1712, from Río Guapaya, Meta, elev. 450 m, 2 Dec. 1949. "Tree 13 m; inflorescence large, white; stigma yellow; fruit red."

Miconia argentea has elliptic to ovate-elliptic leaf blades minutely fleshy-auriculate at the base, hypanthia and lower leaf surfaces completely covered with fringed-lepidote hairs, and flowers secund on the short ultimate branchlets of the inflorescence; in the ancipital young branchlets, stamens, and pistil, the species are alike. Surely M. argentea is to be expected in northwestern Colombia, but I have seen no collections as yet. In inflorescence pattern, M. idroboi resembles

M. elata (Sw.) DC.; that species however has sulcate-quadrangular young branchlets, a tomentum of smaller hairs completely covering the lower leaf surfaces, and densely stellulate-puberulous ovary apices. *Miconia elata* ranges from southern Mexico to Panama in Central America and is recorded from Cuba and Jamaica in the West Indies; in South America, the distribution is limited to the eastern base of the Cordillera Oriental in Colombia (Norte de Santander: Sarare, elev. 500-700 m, Cuatrecasas 13300. Meta: San Juan de Arama, elev. 500 m, Idrobo 511. Caquetá: Florencia-Venecia, elev. 400 m, Cuatrecasas 8955), thus overlapping that of *M. idroboi*. The two collections of *M. idroboi* were grossly misidentified by me in 1957 as *M. hypoleuca* (Benth.) Triana.

MICONIA TETRASPERMOIDES Wurdack, sp. nov.

M. tetraspermae Gleason affinis, foliorum pilis stellulatis maioribus foliis undulato-denticulatis calycibus brevioribus differt.

Arbor 7-15 m alta; ramuli teretes sicut petioli foliorum venae primariae subtus inflorescentiarum axesque dense et foliorum subtus superficies pedicelli hypanthiaque sparse caduceque pilis stellulatis ca. 0.15-0.2 mm diam. induti. Petioli 1-2 cm longi; lamina (5-)8-14 X (2-)3.5-5 cm oblongo-lanceata, apice subgradatim per 0.5-1.5 cm hebeti-acuminato, basi late acuta, firme membranacea et distanter undulato-serrulata (dentibus 4-8 mm separatis), supra glabra, subtus sparse nigro-punctata, trinervata, nervis secundariis 0.5-0.9 cm inter se distantibus subtus crebre elevatis, nervulis obscuris. Panicula 5-9 cm longa submultiflora, ramis ramulisque plerumque 4-6-verticillatis divaricatis; flores 5-meri, pedicellis 1.5-3 mm longis gracilibus, bracteolis 0.2-0.3 mm longis linearibus valde caducis prope hypanthii basim insertis. Hypanthium (ad torum) 1.8 mm longum; calyx 3 mm altus vix (0.1 mm) 5-undulatus post anthesim caducus, dentibus exterioribus inconspicuis non eminentibus. Petala granulosa 1.9-2.2 X 1-1.1 mm ovato-oblonga, apice late acuto. Stamina paulo dimorphica glabra; filamenta 2.5-2.6 vel 2.2-2.3 mm longa; antherarum thecae 1.3-1.4 vel 1.2-1.3 X 0.3 mm anguste lineares, poro unico 0.2 mm diam., connectivo 0.6 vel 0.3-0.4 mm prolongato dorsaliter dente hebeti 0.3 vel 0.1 mm longo ornato ventraliter simplice vel paulo bilobulato. Stigma truncatum non expansum; stylus glaber; ovarium 3(-4)-loculare 3-4-ovulatum 0.6 inferum, apice granuloso.

Type Collection: T. Lasser 1874 (holotype NY), collected in the Selva de Oparuma, Kavanayen, Edo. Bolívar, Venezuela, 30 May 1946. "Flores blancas, pequeñas."

Paratypes: A. L. Bernardi 1481 (NY), from Río Apacará near Urimán, Bolívar, Venezuela, elev. 450-550 m, 17 Aug. 1954 (fruiting); Tillett & Tillett 45511 (NY, US), from near falls of Kako River, upper Mazaruni River basin, British Guiana, elev. 550 m, 23 Sep. 1960 (fruiting); J. C. Lindeman 5254 (US), from Jodensavanne-Mapane Kreek region (Suriname River), Suriname, 18 Dec. 1953 (in bud).

Miconia tetrasperma has the leaf margins entire, the foliar hairs 0.07-0.1 mm diam., and calyces 0.6-0.7 mm long (from the torus) and splitting irregularly at anthesis; a recent Colombian collection is Schultes 3737, from the Río Caucaya, Putumayo (distributed as M. eugeniolides). The general aspect of M. tetraspermoides is like that of M. eugeniolides Triana, a Guayana species differing in the entire leaf margins, longer calyx (0.7-0.8 mm from the torus), and multiovulate ovary cells (3-4 in each of the three locules). Several collections from Humaitá on the Rio Madeira in Brazil (Krukoff 6818 and 6880; Prance, Pena, & Ramos 3508) may be referable to M. tetraspermoides, but the specimens are too incomplete to really confirm this geographic disjunction.

MICONIA CRASSINERVIA Cogn.

Although previously I had expressed doubts (Mem. N. Y. Bot. Gard. 10[4]: 37. 1961) as to the distinctness of this species from M. argyrophylla DC., examination of very complete material of Riedel 1396 (LE) has dispelled these misgivings, at least for M. argyrophylla sensu Cogniaux. Miconia crassinervis differs in the thicker leaf blades with the first pair of lateral primaries running only 1/2-2/3 the distance from the costa to the margins (rather than 3/4-4/5), somewhat closer-spaced secondaries, and densely reticulate veinlets, as well as the costa edges beneath lacking the belt of woolly tomentum so characteristic of the deCandolle species; the ultimate inflorescence branchlets are much shorter, with pinoid-stellulate hairs on the inflorescence and hypanthia; the anthers are smaller, the small ones as well as the large ones with a distinctly prolonged connective; and the stigma is not expanded. The branchlets of M. crassinervis are rounded-quadrangular, rather than sharply quadrate as in the typical subspecies of M. argyrophylla. I still believe that the sporadic longitudinal splitting of the anthers in M. crassinervis is not genetic; such splitting occurs towards the base of the thecae, rather than progressing from the pore downward as in typical species of Miconia Sect. Chaenantha. Recent materials of M. crassinervis that have been compared with the Riedel collection include Killip & Smith 30010 and 30142 from Manaos, Brazil (both maldistributed as M. parviflora), as well as several collections from the Gran Sabana in Venezuela (Bernardi 2739; Bernardi 6630; Steyermark 60628, distributed as M. hypoleuca).

MICONIA PALEACEA Cogn.

Tococa grandifolia Standley, Field Mus. Publ. Bot. 4: 319. 1929.

As treated in the Flora of Guatemala (Fieldiana Bot. 24: 488. 1963), the synonymization of M. paleacea under M. platyphylla (Benth.) L. Wms. is unwarranted, the floral characters being quite diverse and the species probably not closely related. The floral features of M. paleacea may be summarized as follows: hypanthium 3-3.5 mm long, externally

moderately stellulate-puberulous when young; calyx 0.7-1 mm long with essentially truncate limb, the inframarginal external teeth (and also the toral zone more or less) externally with several-numerous stramineous setae 1-1.5 mm long, the torus within gland-edged; petals 3.5-4 X 2 mm, obovate-oblong and obliquely rounded at the apex, gland-edged marginally towards the base but otherwise glabrous; stamens slightly dimorphic, the sparsely glandular-puberulous filaments 4-5.5 or 3-4.5 mm long, the subulate thecae 4.5-5 or 4-4.5 mm long and with an oblique ventrally (large anthers) or dorsally (small anthers) tilted pore, the connective not prolonged and simple or obscurely bilobulate ventrally; stigma slightly enlarged; style glabrous; ovary 3-celled, ca. 1/3 inferior, sparsely to moderately glandular on the free apex. Cogniaux cited the ovary as 4-celled, but the numerous ovaries or fruits dissected by me were all 3-locular.

The growth habit and development of robust setae in M. paleacea are approximately duplicated in sympatric species in other melastome genera (Conostegia, Tococa, Clidemia) and are probably the result of rainforest-directed convergent evolution. At present, I have no particular convictions as to the proper generic disposition and doubt the sectional assignment (Octomeris) suggested by Cogniaux, but certainly the affinity with Tococa platyphylla (vide infra) is tenuous. Also I do not believe that there is any intimate connection with M. mazanana Macbride (known from Peru as well as the Rio Solimões in Brazil, Froes 23901) nor the enigmatic M. stylosa Cogn. (with petals 8-10 mm long). Collections of M. paleacea examined (all US) include: Honduras, Standley 52870 and 54556 and P. Wilson 227; Costa Rica, Tonduz 7652, 8576, and 9602, as well as Standley & Valerio 45056 and 45221; Colombia (Putumayo), King & Guevara 6093; Ecuador (Napo-Pastaza), Grubb, Lloyd, Pennington, & Whitmore 1445 and 1660; Peru, Ferreyra 4483 (San Martín), 2197 (Huanuco), Killip & Smith 26381 (Junín). This pattern of geographic distribution is roughly paralleled elsewhere in Miconia (M. lamprophylla Triana, M. nutans Donn. Smith).

TOCOCA MERIDENSIS Wurdack, sp. nov.

T. platyphyllae Benth. affinis, foliis minoribus petiolis non longe setosis petalis staminibusque minoribus differt.

Suffrutex ubique glandulis clavatis 0.05 mm longis plus minusve caducis sparse ornatus; caulis primum quadrisulcatus demum teres infra radicans usque ad 40 cm longus (vel ultra?) sicut petioli foliorum venae primariae basim versus subtus inflorescentia hypanthiaque sparse vel sparsissime glanduloso-setulosus (setulis 0.5-1 mm longis rigidis demum caducis) et modice vel densiuscule setulis gracilibus flexuosis 0.3-0.7 (-1) mm longis suberectis (in ramis praecipue in angulis in hypanthiis praecipue basim versus) ornatus. Petioli (3-)6-10 cm longi; lamina (5-)8-12 X (4-)6-9 cm late elliptico-ovata apice late hebeti-acuto basi paulo (ca. 0.5 cm) cordata, rigide membranacea et integra sed distanter inconspicueque

appresso-ciliolata, ubique in superficie demum glabrata, subtus in venulis modice pilis gracilibus subappressis 0.2 mm longis obsita, supra i. s. subplana, 5(-7)-nervata nervis secundariis 0.5-0.7 cm inter se distantibus nervulis supra obscuris subtus planis laxe reticulatis. Panicula multiflora 4-7 cm longa; flores 5-meri in ramulis ultimis conferto-secundi, bracteolis ellipticis 0.7-1 mm longis subpersistentibus, pedicellis 0.7-1.5 mm longis. Hypanthium (ad torum) 2.5 mm longum; calycis tubus 0.3 mm longus, lobis interioribus oblatiis 1.2 X 1.8-2 mm basim versus 0.2 mm imbricatis, dentibus exterioribus 1 mm longis robustis inframarginaliter divaricatis; torus intus glanduliferus. Petala 7 X 3.5 mm obovato-oblonga (apice rotundato et 0.1 mm mucronulato) basim versus glandulis marginata alioqui glabra. Stamina glabra in dimensionibus paulo dimorphica; filamenta 4.5 mm longa; thecae 3 vel 2 X 0.6 mm valde curvatae, poro terminali 0.25 mm diam., connectivo nec prolongato nec appendiculato. Stigma capitatum 0.7 X 1 mm; stylus 6 X 0.4 mm basim versus sparse glanduloso-setulosus setulis 0.1 mm longis; ovarium 5-loculare $3/4$ inferum, apice conico glabro 0.4 mm alto.

Type Collection: J. A. Steyermark 55766 (holotype US 1933484; isotypes F, NY), collected between Los Corales and Las Cuadras, Edo. Mérida, Venezuela, elev. 1490-3210 m, 25 March 1944. "Herb, in colonies; common ground cover on moist wooded slopes; leaves deeply rugose both sides, rich green above, pale green below; main nerves on older leaves dull lavender; younger leaves below, as stems, petioles, rachis, pedicels, and calyx deep wine purple. Petals waxy white; filaments and style orchid-lavender; anthers lilac."

Paratype: A. Jahn 421 (US), from the Páramo de Piñango, Mérida, elev. 2600 m, 17 March 1915.

Tococa platyphylla has the petioles setose with hairs 5-10 mm long, leaf blades mostly 15-22 X 15-20 cm, petals 10-12 mm long, and anther thecae 3.9-4.5 mm long. Although similar in gross vegetative aspect to Miconia paleacea (and sympatric with it in Costa Rica, Colombia, and Ecuador), T. platyphylla can be distinguished by the lack of stellulate hairs on the inflorescence and primary veins on the lower leaf surfaces, very fine flexuous hairs and lack of robust setae towards the base of the primary leaf veins beneath, sparsely glandular-setose hypanthia, distinctly lobed calyx, much larger petals, glabrous filaments, large capitate stigmas, and 5-celled ovaries. Costa Rican collections of T. platyphylla (all US) are Pittier 2535, Tonduz 13063, Standley 36463 and 37604, and Schnell 613; I have seen no material from elsewhere in Central America.

TOCOCA PERCLARA Wurdack, sp. nov.

T. broadwayi Urban affinis, foliorum subtus pilis inframarginalibus inconspicuis 0.1-0.2 mm longis caducis foliis minus distincte plinervatis calycis dentibus exterioribus densissime flexuoso-setulosis differt.

Frutex 1-3 m altus; rami robusti primum compressi demum teretes, internodiis primum in lateribus duobus oppositis

densiuscule flexuoso-setosis (pilis usque ad 4 mm longis mox caducis), nodis densissime setosis (pilis robustis 8-12 mm longis persistentibus), alioqui glabri. Petioli robusti (4-)7-20 cm longi subapicaliter per 1-3 cm sicut laminae costa subtus per 1-2 cm dense pilis robustis erectis 5-8 mm longis armati; lamina 35-60 X 20-40 cm oblongo-elliptica apice rotundato, basi rotundata vel obtusa, rigide membranacea et obscure distanter-que undulato-serrulata obscure appresso-ciliolata, subtus in costa distaliter primum sparsissime flexuoso-setulosa demum glabrata, supra et subtus in venulis superficieque glandulis minutis clavatis paucis exceptis glabra, inconspicue 5-pli-nervata pari interiore 0.5-1.5 cm supra basim divergente nervis secundariis 1-1.5 cm inter se distantibus sicut nervulis subtus crebre elevatis nervulis laxo reticulatis areolis irregularibus 1-2 mm latis. Panicula 10-20 cm longa oblonga in nodis gracili-setosa; flores 5-meri sessiles vel subsessiles, bracteolis ca. 5 mm longis ellipticis sicut bracteis persistentibus. Hypanthium (ad torum) 3 mm longum glandulis clavatis 0.05 mm longis sparse indutum sed non setosum; calycis tubus 0.4 mm altus, lobis interioribus 2 mm longis ovato-oblongis (apice rotundato et ciliolato), dentibus exterioribus densissime crispulo-setulosis lobos interiores subaequantibus. Petala 8 X 4.5 mm obovato-oblonga (apice rotundato) apicem versus glandulis marginata alioqui glabra. Filamenta 4.3 mm longa sicut ovarii apex stylusque sparse vel modice glandulis clavatis 0.1 mm longis ornata; antherarum thecae 4.5 X 0.8 mm paulo subulatae, pro terminali 0.2 mm diam. Stigma capitatum 1.3 mm diam.; stylus 5.5 X 0.2-0.7 mm; ovarium 5-loculare $\frac{1}{2}$ inferum; semina 0.6-0.7 X 0.4-0.5 mm numerosa muriculata.

Type Collection: J. A. Steyermark 87078 (holotype US 2338566, 2338567; isotype VEN), collected along a moist forested quebrada in the Selva de Guatopo, 43 km NNW of Altagracia de Orituco and 41.5 km SE of Santa Teresa, Edo. Miranda, Venezuela, elev. 500 m, 11 Sep. 1960. "Shrub 2-3 m, very showy; leaves subcoriaceous, deep green and shining above, pale green below with wine-purple nerves or completely wine red-purple beneath; rachis, hypanthium, and calyx lobes rose-red; petals, filaments, stigma, and style white; anthers purple."

Paratypes: Aristeguieta 837, 1740, 1758 and Steyermark 97560, all from the rain forest along the Río Santa Cruz, highway between Santa Teresa and Altagracia de Orituco, Parque Nacional de Guatopo, Edo. Miranda, elev. 600-700 m.

Tococa broadwayi has the inframarginal zones of the leaf blades beneath densely covered with flexuous hairs ca. 0.5 mm long, the petioles only sparsely setose apically, the inner pair of primary veins on well-developed leaves diverging 3-7 cm above the blade base, and the external calyx teeth sparsely to moderately setulose and 0.5-1 mm shorter than the interior lobes. My doubts as to the specific distinctness of the two taxa have been subdued by the repeated assurances of both Steyermark and Aristeguieta as to the different aspect of living plants, as well as recent collections of T. broadwayi from Tobago (Cowan

1481, Snow 4) and the Paria Peninsula in eastern Venezuela (Steyermark 9499, Steyermark & Rabe 96086); the Paria material shows more rounded leaf bases than the topotypes. Both T. Broadwayi and T. perclara are obviously related to T. platyphylla and T. meridensis, differing in the glandular-puberulous filaments as well as the absence of rigid glandular setae on the hypanthia and basal portions of the primary leaf veins on the lower surface. All four relatives have the flowers crowded-secund on the short inflorescence branches, thus differing from Miconia paleacea.

LOREYA MAGUIREI Wurdack, sp. nov.

L. acutifoliae Berg ex Triana affinis, foliis pseudo-triplinervatis inflorescentiis magis dichotomis stigmatibus capitellato differt.

Ramuli primum inconspicue quadrangulati mox teretes sicut folia inflorescentia hypanthia calyces ubique petalaeque densiuscule appresso-furfuracei glabrati. Petioli 1-1.5 cm longi; lamina 9-14 X 4-6 cm elliptica apice hebeti-acuto basi acuta et in petiolo anguste decurrente, fragilis et integra eciliata, triplinervata (pari inframarginali debili neglecto) nervis primariis lateralibus 0.7-1.1 cm supra basin divergentibus, nervis secundariis 4-6 mm inter se distantibus nervulis subtus planis laxiuscule reticulatis areolis ca. 0.7 mm latis. Cymae submultiflorae 2-3-dichotomae 3-4 cm longae; flores 5-meri, pedicellis 4-6 mm longis, bracteolis triangularibus 0.3-0.5 mm longis ante anthesim caducis plerumque paulo supra pedicellorum bases insertis. Hypanthium (ad torum) 3.3 mm longum urceolatum; calyx truncatus vel obscure 5-undulatus 0.7 mm altus. Petala 8 X 3.5 mm obovato-oblonga intus ca. 2.5 mm infra apicem transverse porcata, apice asymmetricice obtuso. Filamenta 4.5 mm longa glabra; antherae 4.3-4.7 X 2 mm lateraliter compressae poris duobus minutis ventraliter inclinatis, connectivo exappendiculato non prolongato dorsaliter ad basin paullulo (0.1-0.2 mm) elevato. Stigma capitatum 5-sulcatum 1.9 mm latum 1 mm altum; stylus 9 X 0.8-1 mm glaber; ovarium 5-loculare omnino inferum, apice glabro.

Type Collection: Bassett Maguire & Louis Politi 28164 (holotype NY; isotype US), collected near Base Camp on the Río Cuao, Terr. Amazonas, Venezuela, elev. 120 m, 3 Jan. 1949. "Large tree. Flowers red."

Loreya acutifolia has distinctly 5-nerved leaves, flowers subumbellate (occasionally with a short dichotomy) on the peduncle, and a flattened stigma only 0.8-1 mm diam. The inflorescence and flowers of L. maguirei are much like those of L. arborescens (Aubl.) DC.; that Amazonian species has relatively broader leaves with obtuse to rounded apices and 5 distinct primary veins. The Cuao collection was distributed as L. minor Cogn., which differs in the obtuse-based leaves and solitary few-fasciculate flowers.

LOREYA SUBANDINA Wurdack, sp. nov.

L. spruceanae Triana affinis, ramulis juvenilibus petiolis hypanthiisque modice strigulosis petalis extus dense minuteque strigulosis differt.

Arbor parva 6-15 m alta; ramuli novelli rotundato-quadrangulati demum teretes sicut petioli supra hypanthiaque modice pilis appressis (0.3-)0.5-0.7(-1) mm longis et dense pube granuloso-furfuracea induti. Petioli 2-5 cm longi; lamina 17-30 X 7-17 cm elliptica vel ovato-elliptica apice anguste acuto basi late acuta, membranacea et obscure distanterque undulato-serrulata, supra in nervis primariis basim versus primum sparse strigulosa demum glabrata alioqui glabra cystolithis linearibus obscure evolutis, subtus in nervis primariis secundariisque sparse strigulosa (pilis 0.2-0.4 mm longis) in superficie glabra, subalternatim (5-)7-plinervata pari interiore 4-8.5 cm supra basim divergente nervulis subtus planis laxiuscule reticulatis. Flores 5-meri in ramis multifasciculati (usque ad 9-flori), pedunculo non vel obscure (usque ad 3 mm) evoluto, bracteolis basalibus 0.5-1 mm longis deltoideis subpersistentibus, pedicellis 0.7-1.2 cm longis. Hypanthium (ad torum) 5-6 mm longum; calyx 3-4 mm longus ad anthesim in lobis paucis oblatis usque ad 2 mm irregulariter ruptus intus densissime strigulosus pilis gracilibus usque ad 1.5 mm longis. Petala 13-15 X 7-9 mm oblongo-obovata apice late acuto et extus subapicaliter minute mucronulato, unilateraliter auriculata, intus 3.5-5 mm supra basim transverse porcata, utrinque minute granulosa extus superficie in alabastris exposita dense pilis 0.1-0.2 mm longis flexuosis furfuracea. Filamenta 7 mm longa; antherarum thecae 5.5 X 1.5 mm, poris duobus 0.1 mm longis ventralibus, connectivo ad apicem 0.5 mm eminente ad basim 1.5-1.8 mm lato dorsaliter paulo elevato. Stigma expansum 5-sulcatum 3 mm diam.; stylus ca. 13 X 1-1.5 mm; ovarium 10-loculare omnino inferum, apice glabro circum stylum non prolongato.

Type Collection: O. Buchtien 1034 (holotype US 1399144), collected near Sarampiuni, San Carlos, Mapiri region, Bolivia, elev. 600 m, 15 Jan. 1927. "Ziemlich hoher Baum; Blüten rot."

Paratypes: Asplund 9181 and 9463, both from near Tena, Napo-Pastaza, Ecuador; Killip & Smith 27455, from Iquitos, Loreto, Peru, elev. 100 m; R. S. Williams 662, from "San Buena Ventura", La Paz (?), Bolivia.

Loreya spruceana has a very minute external pubescence of fine hairs 0.2-0.25 mm long, anther connectives (dry) only about 0.8-1 mm wide at the base, and petals merely granulose-pulverulent; however, the calyx densely strigulose within and long-protracted above the torus is similar to that in L. subandina. The general facies of L. subandina is like that of L. collatata (vide infra); all of the specimens had been distributed as L. spruceana. The 10-celled ovary of L. subandina would suggest a position in Bellucia, but the resemblances to L. spruceana seem more relevant.

LOREYA COLLATATA Wurdack, sp. nov.

L. spruceanae Triana affinis, ramis juvenilibus petiolis supra densiuscule strigulosis, calycibus 1.5-2 mm longis intus modice pilis brevissimis strigulosis differt.

Arbor parva 4-8 m alta; ramuli novelli subquadrati demum teretes sicut petioli supra foliorum venae primariae subtus pilis gracilibus 0.3-0.5(-3) mm longis densiuscule strigulosis. Petioli 2-6 cm longi; lamina 15-26 X 7-21 cm ovato-elliptica apice breviter acuminato basi late acuta vel obtusa, membranacea et obscure distanterque undulato-serrulata, ubique primum sparse vel sparsissime laxo-strigulosa (pilis ca. 0.2 mm longis) supra mox glabrata subtus demum glabrata, 5(-7)-plinervata pari interiore 1-4.5 cm supra basim divergente nervulis subtus laxiuscule reticulatis subplanis. Flores 5-meri in ramis multifasciculati (fasciculis usque 9-floris), pedunculo non evoluto, bracteolis basalibus 0.5 mm longis ovatis subpersistentibus, pedicellis 7-11 mm longis sicut hypanthiis dense pilis gracilibus appressis 0.15-0.2 mm longis et pube furfuracea indutis. Hypanthium (ad torum) 6-7 mm longum; calyx 1.8-2 mm longus truncatus vel paullulo 5-undulatus intus modice pilis 0.1-0.15 mm longis gracilibus strigulosus. Petala ubique minute pruinoso-granulosa 10 X 6 mm ovato-oblonga, apice oblique obtuso et brevissime mucronulato (ungue ca. 3-4 mm longo vix conspicuo), intus 1.5-2 mm supra basim inconspicue transverso-porcata. Filamenta 4-5 mm longa; antherarum thecae 5-6 X 1-1.5 mm, poro unico minuto ventraliter inclinato, connectivo ad basim 1 mm crasso ventraliter obtusate crasseque bilobulato. Stigma expansum 2.5-2.6 X 2.5-2.8 mm 5-sulcatum; stylus 12-15.5 X 1-1.5 mm; ovarium 5-loculare omnino inferum, apice glabro circum stylum non prolongato.

Type Collection: H. A. Allard 22575 (holotype US 2025563), collected in jungle on ridge east of Tingo María, Depto. San Martín, Peru, elev. 625-1100 m, 30 Oct. 1949-19 Feb. 1950. "Forest tree. Flowers white, fragrant."

Paratypes: Maguire & Fanshawe 22967, from Garroway Stream, Potaro River, British Guiana; Bernardi 2104 (NY), from 30 km south of El Dorado, Bolívar, Venezuela; Breteler 4046, from Barinas-San Cristóbal road, Barinas, Venezuela, elev. 350 m; Steyermark 99940, from southeast of Machiques, Zulia, Venezuela, elev. 325-350 m; Steyermark & Rabe 96690, from west of El Piñal, Táchira, Venezuela, elev. 250-300 m; Cazalet & Pennington 7724, from Taisha, Santiago-Zamora, Ecuador, elev. 450 m.

Both L. spruceana and L. subandina (vide supra) differ in the longer calyces which are very densely strigulose inside (the hairs to 1.5 mm long). Vegetatively, L. collatata is quite like L. subandina, but the petals are merely granulose and the stamen connective only about 1 mm wide at the base. All of the collections except Cazalet & Pennington 7724, Breteler 4046, and Maguire & Fanshawe 22967 had been named previously as L. spruceana; these three had been distributed as L. mespiloides Miquel. Loreya mespiloides differs from L. collatata in the greater vegetative pubescence development, much longer

hypanthial pubescence, more definite calyx lobes, and toral hair tufts within; L. brunnescens (Standl.) Gleason, still known only by two fruiting collections from Panama, is perhaps synonymous with L. mespiloides. The Guayana collections of L. collatata have longer cauline and petiolar hairs and somewhat smaller fruits than Andean materials. The relative geographic distribution of L. subandina, L. collatata, and L. spruceana is not in the neat pattern that a neotropical taxonomist would prefer. Cogniaux' generic description of Loreya indicated 1-pored anthers, but 7 species actually have biporose anthers, and L. spruceana (Prance et al 4699), L. collatata, and L. mespiloides are the only ones with 1-pored anthers (the pores unknown at present in L. mucronata Gleason and L. brunnescens).

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ADDITIONAL NOTES ON THE ERIOCAULACEAE. XIX

Harold N. Moldenke

ERIOCAULACEAE Lindl.

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